

ZIN'KOV, Z.Ye.; BUDRINA, E.A.

Automatic control of nitric acid content in the process of benzene  
nitration. Zhur.pril.khim. 35 no.1:195 Ja '62. (MIRA 15:1)

1. Permskiy khimicheskiy zavod imeni S.Ordzhonikidze.  
(Benzene) (Nitric acid) (Automatic control)

ZIN'KOV, Z.Ye.; PYLAYEVA, L.I.

Analysis of aniline, methyl- and dimethylaniline mixtures, Zhur.  
anal.khim. 15 no.1:103-111 J-F 860. (MIRA 13:5)

1. S. Ordshonikidze Perm Chemical Plant.  
(Aniline)

5.5230

77759

SOV/75-15-1-21/29

AUTHORS: Zin'kov, Z. Ye., Pylayeva, L. I.

TITLE: Analysis of Mixtures of Aniline, Mono- and Dimethylaniline

PERIODICAL: Zhurnal analiticheskoy khimii, 1960, Vol 15, Nr 1,  
pp 109-111 (USSR)

ABSTRACT: Acidimetric analysis of aniline, monomethylaniline, and dimethylaniline mixtures in aqueous solutions was studied. A short review of other methods is also given. The proposed new method consists of the following steps. Determine the total acid consumption for neutralization of amines plus an excess (N ml) by dissolving 20-30 g of the amines in 200-250 ml of 1N HCl and making up to 500 ml with water; determine the excess acid (A) by titrating 50 ml of the analyzed mixture with 0.5N NaOH to pH 2.55 (using 0.1% tropeoline OO solution). The amount of nitrite needed for aniline diazotization and monomethylaniline nitrosation is determined according to well-known methods, using 50 ml of the analyzing solution; con-

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Analysis of Mixtures of Aniline, Mono-  
and Dimethylaniline

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sumption of 0.5N nitrite solution is denoted by B ml ; consumption of acid used for aniline diazotization is determined by adding to 50 ml of the analyzed solution about 2 g of sodium bromide, B ml of 0.5N acid solution, and B ml of 0.5N nitrite solution (if  $(A - B) > 5$  ml, addition of acid is not necessary). After 2-3 minutes add ice and about 20 g of NaCl and titrate the solution with 0.5N NaOH in the presence of 0.2% alcoholic solution of dimethyl yellow (at  $-5, -7^{\circ}$ ), the amount of 0.5N NaOH solution used is denoted by C ml.

Calculation:

Content of dimethylaniline	$(0.2 - A - B)$	60.5/d%
Content of aniline	$(A + B - C)$	46.5/d %
Content of monomethylaniline	$(C - A)$	50.35/d%
if B ml of 0.5N acid was not added:		
Content of monomethylaniline	$(B + C - A)$	50.35/d%

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Analysis of Mixtures of Aniline, Mono-  
and Dimethylaniline

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Content of aniline

(A - C)

46.5/d%

where d is the weight of the analyzed sample. The method was checked on synthetic samples and found accurate enough for technical analyses. The root-mean-square errors are:

$\sigma_{\text{aniline}} = \pm 0.34 \text{ ml}$ ,  $\sigma_{\text{dimethylaniline}} = \pm 0.18 \text{ ml}$ ,  $\sigma_{\text{monomethylaniline}} = \pm 0.27 \text{ ml}$ ,  $\sigma_{\text{diazotization}} = \pm 0.12 \text{ ml}$ ,  $\sigma_{S_1} = \pm 0.23 \text{ ml}$ ,  $\sigma_{S_2} = \pm 0.4 \text{ ml}$  (where  $S_1 = 0.2N - A$  and  $S_2 = 0.2N - C$ ). There is 1 table; and 18 references, 1 U.S., 2 German, 15 Soviet. The U.S. reference is: Fritz, J. S., *Analyt. Chem.*, 25, 750 (1953).

ASSOCIATION:

S. Ordzhonikidze Perm Chemical Factory (Permskiy khimicheskiy zavod imeni S. Ordzhonikidze)

SUBMITTED:  
Card 3/3

January 10, 1959

ZIN'KOV, Z. YE.

"The Laboratory Method of Determining the Recovery of the Condensate into the Boiler,"

Leg. Prom., 8, No. 5, 1948.

ZIN'KOVA, E.

Glikman, S. A., Ragozina, T. and Zin'kova, E. - "The rise in the activity of talcum as a filler for rubber mixtures," Uchen. zapiski (Sarat. gos. un-t im. Chernyshevskogo), Vol. XXI, vyp. khim., 1949, p. 60-77, - Bibliog: 6 items

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 1949).

ZINKOVA, E. V.

USSR/Physical Chemistry - Electrochemistry.

B-12

Abs Jour: Referat. Zhurnal Khimii, No 2, 1958, 3981.

Author : A.L. Markman, E.V. Zinkova.

Inst :

Title : Polarographic Behavior of Geometrically Isomeric Acids.

Orig Pub: Zh. obshch. khimii, 1957, 27, No 6, 1438-1448.

Abstract: The polarographic behavior of citraconic (I), mesaconic (II), cis-aconitic (III), trans-aconitic (IV), cis-cinnamic (V), trans-cinnamic (VI), isocrotonic (VII) and crotonic acids on the KCl background,  $\text{Na}_2\text{HPO}_4$ , citric and boric acids, NaOH, HCl and buffer mixtures was studied. I and II produce one wave in the pH range from 0.02 to 3.38 and two waves at pH from 3.38 to 6.62, at which occasion  $i_d$  of the 1st wave decreases to its disappearance with the increase of pH, and  $i_d$  of the 2nd wave increases; at pH above 6.62 only the second wave remains. At pH = 9 and more, I and II are not reducible. I is reducible

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MARKMAN, A.L.; ZINKOVA, E.V.

Polarographic investigation of the hydrogenation process.

Part 7: Hydrogenation of mixtures of cis-trans isomeric acids. Zhur.ob.khim. 32 no.2:353-358 F '62. (MIRA 15:2)

1. TashkentSKIY politekhnicheskiy institut.  
(Hydrogenation) (Acids, Organic)

5 (3)  
AUTHOR:

Markman, A. L., Zinkova, E. V.

507/79-29-7-55/83

TITLE:

On the Problem of the Kinetics of the Interconversion of Cis-trans Isomers (K voprosu kinetiki vzaimnogo prevrashcheniya tsis-trans-izomerov). I. Carboxylic Acids (I. Karbonovyye kisloty)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2362 - 2365 (USSR)

ABSTRACT:

In their previous report (Ref 1) the authors demonstrated that the cis isomers of the geometrical-isomeric acids investigated were always reduced more easily at a mercury dropping electrode than the trans isomers, due to a greater supply of free energy in the cis isomer. From this fact the authors drew the conclusion that photon energy supplied from without would aid the conversion of the trans into the cis modification and that the loss of this energy would produce the inverse reaction. R. Stoermer (Ref 2) already noted the fact that stable stereoisomers were transformed into the unstable ones by ultraviolet irradiation, but the separation of the isomers was so difficult that he was unable to investigate the kinetics of the reaction process. In order to investigate the reaction process, the au-

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On the Problem of the Kinetics of the Interconversion SOV/79-29-7-55/83  
of Cis-trans Isomers. I. Carboxylic Acids

thors made use of the differences in the polarographic behavior of the cis and trans acids, which had been found already earlier (Ref 1). Their attempts to convert the trans form of various ethylenic acids (e.g. crotonic, fumaric, and aconitic acid) into the cis isomer by irradiation in the presence of the corresponding indifferent electrolytes ( $\text{NH}_4\text{Cl}$  or  $\text{HCl}$ ) yielded somewhat unexpected results: the trans isomer usually disappeared gradually, the cis isomer was not formed, or only in minute quantities, and reconversion was not observed in the dark. Assuming some change to have taken place in the indifferent electrolyte, under the influence of the irradiation, the alcoholic  $\text{HCl}$ -solution was irradiated separately, whereupon free chlorine was detectable in the solution. Evidently this chlorine in statu nascendi adds to the ethylenic double bond, thus producing an irreversible change in the molecule. In order to avoid this, the irradiation was carried out without adding an indifferent electrolyte. Thus, the authors determined the differences in stability of the cis-isomers of various acids by measuring the specific reaction rate of their conversion into the trans

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On the Problem of the Kinetics of the Interconversion of Cis-trans Isomers. I. Carboxylic Acids SOV/79-29-7-55/83

isomers (see also the experimental part of the paper). There are 1 table and 2 references, 1 of which is Soviet.

ASSOCIATION: Sredneaziatskiy politekhnicheskiy institut [(Soviet) Central Asiatic Polytechnic Institute]

SUBMITTED: June 23, 1958

Card 3/3

MARKMAN, A.A.; ZINKOVA, E.V.

Polarographic behavior of geometrically isomeric acids. Zhur.ob.khim.  
27 no.6:1438-1448 Ja '57. (MIRA 10:8)

1.Sredneaziatskiy politekhnicheskii institut.  
(Polarography) (Acids, Organic) (isomerism)

ZINKOVA, E. V.

ZINKOVA, E. V. -- "Polarographic Investigation of the Behavior of Cis-Trans Isomers." Min Higher Education USSR. Central Asia Polytechnic Inst. Tashkent, 1955. (Dissertation for the Degree of Candidate of Chemical Sciences)

SO: Knizhnaya Letopis', No 1, 1956, pp 102-122, 124

5(3)

SOV/79-29-9-62/76

AUTHORS: Markman, A. L., Zinkova, E. V.

TITLE: On the Problem of the Kinetics of the Reciprocal Transformation of the Cis-trans Isomers. II. Azobenzene

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 3093-3098 (USSR)

ABSTRACT: The different concepts concerning the polarographic behavior of the two stereoisomeric azobenzenes in the reduction in acid and alkaline medium, and those concerning the problem as to whether in this case the reduction takes place at one and the same potential or at different potentials (Refs 1-5) urged the authors to investigate the behavior of azobenzene at the dropping-mercury electrode. It was found that azobenzene consists of 67.7% cis-form and 32.3% trans-form. In solar irradiation the trans-form passes into the cis-form; on standing in the dark the reverse process takes place after a certain induction period. The reduction of the two forms at the cathode under participation of two electrons is reversible. The diffusion coefficient of azobenzene was calculated. On the basis of the difference between the semiwave

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SOV/79-29-9-62/76

On the Problem of the Kinetics of the Reciprocal Transformation of the  
Cis-trans Isomers. II. Azobenzene

potentials of its cis- and trans-form the energy of the transition of the cis-isomer into the trans-isomer was computed. The influence of the pH of the medium on the polarographic behavior of azobenzene is shown in table 1, the influence exercised by the alcohol content of the solution on the polarographic behavior of azobenzene is illustrated in table 2. Table 3 shows the dependence of the diffusion current on the azobenzene concentration, table 4 the influence exercised by the pH of the medium on the polarographic behavior of irradiated azobenzene, table 5 the influence exercised by the alcohol per cent content of the solution on the polarographic behavior of the azobenzene irradiated. In table 6 the time-dependent transition of the cis-azobenzene into the trans-form is illustrated (three polarograms). There are 3 figures, 6 tables, and 9 references, 3 of which are Soviet.

ASSOCIATION: Sredneaziatskiy politekhnicheskiy institut  
((Soviet) Central Asia Polytechnic Institute)

Card 2/3



SOV/79-29-9-62/76

On the Problem of the Kinetics of the Reciprocal Transformation of the  
Cis-trans Isomers. II Azobenzene

SUBMITTED: September 8, 1958

Card 3/3

ZIN'KOVA, M.L.; GOL'DINA, A.S.

Treating lumbosacral peripheral nerves with bee venom. Vrach.  
delo supplement '57:79-80 (MIRA 11:3)

1. Nevrologicheskoye otdeleniye Pervoy Simferopol'skoy gorodskoy  
bol'nitsy (nauchnyy rukovoditel'-prof. N.N.Pyatnitskiy)  
(NERVOUS SYSTEM--DISEASES) (VENOM--THERAPEUTIC USE)

USSR/Diseases in Farm Animals. Noncontagious Diseases.

Abs Jour: Ref Zhur-Biol., No 12, 1956, 54912.

Author : Chepayev, I., Zin'kova, Z.

Inst :

Title : Alimentary (Forrage) Hepatitis in Sheep.

Orig Pub: S. kh. Kirgizii, 1957, No 5, 52.

Abstract: It was observed that on soils which lack albumins sheep become sick at the end of their pregnancies. After clinical symptoms appear (refusal of food, general depression), the disease lasts for 3-4 days. Medical treatment is of little effect, for it is applied when the liver has already degenerated. It is recommended that the sheep receive additional forrage which is rich in albumins and vitamins during the second half of their pregnancy.

Card : 1/1

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*ZIN'KOVA* *Z. M.*  
BRODSKIY, Yu.A., kand. tekhn. nauk; ZIN'KOVA, Z.M., inzh.; KONDAKOV, S.S.,  
inzh.

Selecting methods and flow-sheets for mechanized crocus production.  
Trudy VNIISekla no.37:12-26 '57. (MIRA 11:1)  
(Glass manufacture--Equipment and supplies) (Iron oxides)

Zin'kova, Z.M.

USSR/Chemical Technology - Chemical Products and Their  
Application - Other Industries.

I-30

Abs Jour : Referat Zhur - Khimiya, No 9, 1957, 33138

Author : Brodskiy, Yu.A., Zin'kova, Z.M., Kondakov, S.S.

Inst :

Title : Mechanized Production of Crocus by the Soda Method at the  
Plant imeni Dzerzhinskiy.

Orig Pub : Steklo i keramika, 1955, No 10, 14-18

Abstract : Hot solutions of the starting materials:  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$   
(70-80°) and  $\text{Na}_2\text{CO}_3$  (50-60°) are filtered, respectively,  
through a vacuum- and a press-fILTER and are run by gravi-  
ty into precipitation vats. The volume ratio of dissolu-  
tion and precipitation vats must be not below 1:4. The  
 $\text{FeCO}_3$  precipitate is washed and steamed to remove soluble  
sulfates of Na and Fe. The duration of settling (after  
washing) is 2-4 hours. Suspension of the precipitate is  
pumped to vacuum filter drums to remove the water

Card 1/2

USSR/Chemical Technology - Chemical Products and Their  
Application - Other Industries.

I-30

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 33138

(up to 30-35%), then the precipitate is partially dried (to 5-7%) and disintegrated. The calcination is carried out in a revolving furnace. Temperature of calcining is determined experimentally on the basis of the polishing properties of the crocus (C), obtained at different values of the parameters. Lowering of the temperature compensated by an increased duration of the treatment of the material in the furnace, improves the quality of the crocus. The calcined C is rapidly cooled, then mixed and steamed. The C is divided into fractions in vats disposed in a cascade (or in continuous operation cone classifiers). C fractions are strained through vibratory silk screens. Thereafter the C suspension is adjusted to the required density and passed into service vats. The supply of dry calcined C is stored in mixing bins and the finished C suspension -- in the service vats.

Card 2/2

ZIN KOVA, Z. M.

TYALUKHIN, P.N.; GUREVICH, L.R.; ZIN KOVA, Z.M.; PESELEV, V.S.

Efficient diagram of grinding and classification of microsection  
powders. Stek.1 ker. 14 no.7:23-25 J1 '57. (MLRA 10:8)

1. Moskovskiy stekol'nyy zavod.  
(Glass manufacture--Equipment and supplies)

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065220010-3

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065220010-3"



USSR/ Miscellaneous - Industrial processes

Card 1/1 : Pub. 104 -- 4/9

Authors : Brodskiy, Yu. A., and Zin'kova, Z. M.

Title : Effect of larger grain fractions in abrasive powders on glass grinding

Periodical : Stek. i ker. 8, 10-13, Aug 1954

Abstract : The size of granulometric fractions, in abrasive materials used  
in grinding, has a significant effect on the surface quality of

Institution : ....

Submitted : .....

Journal of the American  
Ceramic Society  
July 1954  
Abrasives

Quartz sand powders for glass grinding. Ye. A. Brodskiy AND  
A. M. Kopylov. *Soviet J. Appl. Phys.* 10 (9) 9-11 (1938).—Corun-  
dum proved 1.8 to 2.7 times more effective than quartz sand as an  
abrasive in glass grinding. In determining the quality of the sur-  
face with a profilometer profilograph, the results were better with  
quartz sand. There was a definite relationship between the maxi-  
mum depth of cavities and the deviation from the average line, as  
obtained with the comparator of the instrument. This coefficient  
varied with the grain size from 4.0 to 7.8 for electrocorundum and  
from 6.5 to 7.0 for quartz sand. H.Z.K.

ZIN'KOVA, Z. M.

ERODSKIY, Yu.A.; ZIN'KOVA, Z.M.

Effect of the formation of coarser fractions in abrasive powders  
on the glass grinding process. Stek. i ker. 11 no.8:10-13 Ag '54.  
(Abrasives) (Glass manufacture) (MLBA 7:8)

ZINKOVA, Z. M.

Journal of Applied Chemistry  
April 1954  
Industrial Inorganic Chemistry

Use of powdered quartz sand for grinding or polishing of glass  
sheet. Russian text. *Glas*, 1953, 30, 569. 4 refs. to  
the coat and scarcity of corundum sand, is being increasingly used  
in Russia. Y. A. Brodskii and Z. M. Zinkova. *Glas*, 1953, 30, 569.  
1953, Sep. 9-13, quoted the results of their own experimental comparison of the grinding and polishing qualities  
of sand and corundum. Using a lens-grinding machine it was  
found that the abrasive power of corundum was 1.8 to 2.7 times that  
of sand and increased with the fineness. The quality of the finish  
(profilograph of V. A. Brodskii, *Steklo i keramika*, 1953, No. 2)  
given by sand was better, probably due to the uniformity of the  
grain size. The lower abrasive power of sand can be compensated  
by increased working pressure and the use of larger quantities.

12A. Stepanov

ZIN'KOVA, Z. M.

B. T. R.  
Vol. 3 No. 4  
Apr. 1954  
Ceramics and Concrete

② *Math*  
4434\* Application of Powders From Quartz Sand for  
the Grinding of Sheet Glass. (Russian.) Iu. A. Brodskii and  
Z. M. Zin'kova, Steklo i Keramika, v. 10, no. 9, Sept. 1953,  
p. 9-13.  
Discusses substitution of quartz for corundum. Tables, graphs,  
diagram. 4 ref.

*MA  
7-14-54*

BRODSKIY, Yu.A.; ZIN'KOVA, E.N.

Use of quartz sand powder for plate-glass polishing. Stet. i ker. 10 no. 9:9-  
13 S '53. (MIRA 6:8)

(Plate glass) (Grinding and polishing)

Zin'kova, Z.M.

BRODSKIY, Yu.A.; ZIN'KOVA, Z.M.; KONDAKOV, S.S.

Mechanized soda method crocus production at the Dzerzhinskii Plant.  
Stek. 1 ker. 12 no.10:14-18 0 '55. (MIRA 9:1)

1. Institut stekla (for Brodskiy and Zin'kova). 2. Zavod imeni  
Dzerzhinskogo (for Kondakov).  
(Dneprodzerzhinsk--Metallurgical plants) (Iron oxides)

[illegible]



CHEPAYEV, I.P., veterinarnyy vrach; ZINKOVA, Z.Y., veterinarnyy vrach;  
GORDIYENKO, L.F., veterinarnyy vrach.

Myarsenol in treating listerellosis in swine. Veterinariia 32  
no.9:41-43 S '55. (MIRA 8:12)

1.Przheval'skaya mezhrayonnaya veterinarnaya laboratoriya i  
rayonnaya veterinarnaya lechobnitsa Kirgizskoy SSR.  
(ARSPHENAMINE) (SWINE--DISEASES) (LISTERELLOSIS)

ALEKSANDROVA, V.P.; BEREZINA, N.K.; BERNSTEYN, A.I.; BERNSTEYN, S.E.;  
BLOKH, R.L.; ZINKOVETSKAYA, T.S.; IDESIS, Ye.S.; SMOLENKOVA, O.N.;  
TOSHINSKIY, I.I.; TSARFIS, P.G.; SHABAD, Ye.T.; SHEYNBERG, O.A.

Professor E.I.A. Stavskaya; obituary. Vop. kur., fizioter. i lech.  
fiz. kul't. 26 no. 2:191 Mr-Apr '61. (MIRA 14:4)  
(STAVSKAYA, EVGENIYA IAKOVLEVNA, 1892-1960)

STAVSKAYA, Ye.Ya., prof.; EMANUEL', A.V., starshiy nauchnyy sotrudnik;  
ZINKOVETSKAYA, T.S., ordinator; BABAYAN, S.S., klinicheskiy ordinator

Effectiveness of treating inflammatory gynecological diseases of  
the female sex organs using radon waters in two concentrations.  
Uch.zap.Pyat.gos.nauch.-issl.bal'n.inst. 3:353-364 '60.

(MIRA 15:10)

(PYATIGORSK--RADON--THERAPEUTIC USE)  
(GENERATIVE ORGANS, FEMALE--INFLAMMATION)

MYLKO, S.N., kand. tekhn. nauk; ZINKOVICH, P.A., inzh.

Melting cast-iron chips in induction furnaces. Mashinostroyeniye  
no.2s52-54 Muzap '65. (MIRA 18:6)

Zinkovich, V. P. (Inst. of Oceanography)

The generation of abrasive contours in the process of a rise in sea level

Doklady Akademii Nauk SSSR  
Vol. 63, No. 2, 1948, pp. 183-6

B.N.L. Guide to R scientific Per. Lit., No. 1, Jan, 1949, p.27

ZINKOVICH, V. P.

Zinkovich, V. P. (Inst. of Oceanography)

The formation of abrasive contours in the process of a rise in sea level

Doklady Akademiy Nauch: SSSR

Vol. 63, No. 2, 1968, pp. 183-5

B.N.L. Guide to B scientific Rep. Lit., No. 1, Jan, 1969, p.27

KISKIN, P. Kh.; ZINKOVSKAYA, I.A.

Characteristics of damage caused to the apple tree by the woolly  
apple : id (*P. soma lanigerum* Hausm.). Izv.Molt.Fil.AN SSSR  
no.4:7: 88 '61.

(MIRA 17:10)

ZIN'KOVSKAYA, S.I.; MAKSIMOVA, N.I.

Drying of coke-oven gas producing shops of the Yasinovka Coke and  
Coal Chemicals Plant. Koks i khim. no.11:42-44 '63. (MIRA 16:12)

1. Yasinovskiy koksokhimicheskiy zavod.



ZIN'KOVSKIY, A. A.

Cand Tech Sci - (diss) "Study of the process of braking in band brakes." Dnepropetrovsk, 1961. 11 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Dnepropetrovsk Order of Labor Red Banner Mining Inst imeni Artem); 175 copies; price not given; (KL, 7-61 sup, 236)

ZIN'KOVSKIY, Abram Isaakovich; ZHEREBTSOV, I.P.; MATVEYEV, G.I., tekhn.red.

[Klystron] Klistron. Moskva, Gos.energ.izd-vo, 1959. 15 p.  
(Massovaya radiobiblioteka, no.322) (MIRA 12:4)  
(Klystrons)

3(3)

SOV/26-59-3-30/47

AUTHOR: Zin'kovskiy, A. I. (Moscow)

TITLE: A Conference on the Scintillation of Stars

PERIODICAL: Priroda, 1959, Nr 3, p 114 (USSR)

ABSTRACT: Similar to the scintillation and flickering of the image of stars, one can observe the scintillation and flickering of the "image" of a radiosource. This leads to a limitation of the maximum accuracy of radar and radio navigational installations. These problems were discussed at the All-Union Conference in Moscow convened in 1958 by the Astronomicheskiy Sovet AN SSSR (Council on Astronomy of AS USSR) and the Institut fiziki atmosfery AN SSSR (Institute of the Physics of the Atmosphere AS USSR). The conference was attended by astronomers, physicists and radiophysicists. The turbulent structure of the atmosphere affects the propagation of ultrashort waves in many ways. In the reports submitted to the conference, the results of theoretical and experimental research on the turbulent structure of the troposphere and of observations on the flickering star

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SOV/26-59-3-30/47

A Conference on the Scintillation of Stars

images were set forth. Part of the reports was devoted to the atmospheric interferences during observations of the sun. Information was given on the application of new photoelectrical and television techniques for the registration of the restlessness of star images, on electronic devices ensuring a statistical analysis of the fluctuating magnitudes, and on the electron-optical installation for the automatic guiding of the telescope. Great interest was aroused by the information of Academician V. P. Linnik on the possibilities of compensating the restlessness of the star images and obtaining a quiet image of astronomical objects, in order to fully utilize the technical possibilities of the large telescopes, e.g. for the observation of the surface of the planets. In a decision passed by the conference, the importance of a further study of the astroclimate of the USSR was emphasized. Its ultimate aim is to make a chart of the astroclimate of the USSR and bordering countries.

Card 2/2

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PHASE I BOOK EXPLOITATION

BOV/3264

Zin'kovskiy, Abram Isaakovich

Lampy begushohey i obratnoy volny (Traveling- and Backward-Wave Tubes) Moscow, Gosenergoizdat, 1959. 31 p. (Series: Massovaya radiobiblioteka, vyp. 331) 50,000 copies printed.

Ed.: T. I. Izyumova; Tech. Ed.: G.I. Matveyev; Editorial Board of Series: A. I. Berg, F. I. Burdeynyy, V. A. Burlyand, V. I. Vaneyev, Ye. N. Genishta, I. S. Dzhigit, A. M. Kanayeva, E. T. Krenkel', A. A. Kulikovskiy, A. D. Smirnov, F. I. Tarasov, and V. I. Shamshur.

PURPOSE: The booklet is intended for radio amateurs.

COVERAGE: The booklet outlines the physical principles of operation of traveling-wave tubes and backward-wave oscillators, in which continuous interaction between the electromagnetic wave and the electron bunch is obtained. Information is given on practical applications of these tubes in microwave radio equipment. No

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Traveling and Backward-Wave (Cont.)

SOV/3264

personalities are mentioned. There are no references.

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Traveling and Backward-Wave (Cont.)	SCV/3264	
Backward-Wave Oscillator		24
Counter Movement Between the Electron Bunch and Electromagnetic Wave	the	24
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AVAILABLE: Library of Congress		

Card 3/3

JP/mmh  
3-4-60

ZIN'KOVSKIY, Abram Isaakovich; EYDUS, G.S., red.

[Radio engineering experiments] Radiotekhnicheskii  
eksperiment. Moskva, Izd-vo "Energia," 1964. 118 p.  
(MIRA 18:2)



POKRAS, Aleksandr Mikhaylovich. Prinimal uchastiye KINBER, B.Ye.,;  
ZIMKOVSKIY, A.I., otv. red.; VOLKOVA, E.M., red.;  
ROMANOVA, S.F., tekhn. red.

[Periscopic antennas and beam transmission lines] Peri-  
skopicheskie anteny i besprovodnye linii peredachi. Mo-  
skva, Sviaz'izdat, 1963. 197 p. (MIRA 16:7)

(Microwave communication systems)

(Antennas (Electronics))

POKRAS, Aleksandr Mikhaylovich; Prinimal uchastiye KINBER, B.Ye.;  
ZIN'KOVSKIY, A.I., otv. red.; VOLKOVA, E.M., red.; ROMANOVA, S.F., tekhn.  
red.

[Periscopic antennas and beam transmission lines] Periskopicheskie anteny i besprovodnye linii peredachi. Moskva, Sviaz'izdat, 1963. 197 p. (MIRA 16:8)

(Antennas (Electronics))  
(Microwave communication systems)

ZINKOVSKIY, B., podpolkovnik; LAZEBNIKOV, M., inzh.-podpolkovnik

Preparing routes during unfavorable weather conditions. Voen.  
vest. 41 no.4:91-93 Ap '62. (MIRA 15:4)  
(Transportation, Military) (Military field engineering)

ZIN'KOVSKIY, I.K., inzh.

Problems in designing band throwers. Stro1.1 dor.mashinostr. '5  
no.1:27-28 Ja '60. (MIRA 13:5)  
(Earthmoving machinery)

ZIN'KOVSKIY, M., tekhn.inspektor

With the help of public-spirited workers. Ochr.truda i sots.  
strakh. no.7:35 J1 '59. (MIRA 12:11)  
(Dneprodzerzhinsk--Fertilizer industry--Hygienic aspects)

SHARKOVSKIY, A.M., insh: ZINKOVSKIY, B.D., insh.

Using cutting-depth limiters on bulldozer blades. Stroi.i  
dor.mashinostr, 3 no.10:22-23 0 '58. (MIRA 11:11)  
(Bulldozers)

ZIN'KOVSKIY, M.; tekhnicheskii inspektor (g. Dnepropetrovsk)

PRSH-2M respirator. Okh. truda i sots. strakh. no. 6:76 Jo '59.  
(MIRA 12:10)

(Respirators)

ZIN'KOVSKIY, M.

Public research institute of industrial hygiene. Okhr. truda i  
sots. strakh. 5 no. 5 S '62. (MIRA 16:5)

1. Rektor Obshchestvennogo nauchno-issledovatel'skogo instituta  
okhrany truda.

(INDUSTRIAL HYGIENE RESEARCH)



TEREKHOV, N.T., dotsent; TRESCHENSKIY, A.I., dotsent; GEL'DER, V.N.,  
kand. med. nauk; ZIN'KOVSKIY, M.P.

Prevention of acute renal insufficiency in connection with hemo-  
lysis in surgery with artificial blood circulation. Vest. khir.  
93 no.11:9-16 N '64. (MIRA 18:6)

1. Iz kliniki khirurgii serdtsa (zav. - prof N.M. Anosov)  
Ukrainskogo nauchno-issledovatel'skogo instituta tuberkuleza  
i grudnoy khirurgii imeni Yanovskogo.

ZIN'KOVSKIY, M.F. (Kiyev, ul. Mirova, d.4, kv.8)

System for drawing up the blood lost during cardiotomy using  
artificial blood circulation. Klin.khir. no.11:88-91 # '62.  
(MIRA 16:2)

1. Kafedra torakal'noy khirurgii (zav. - chlen-korrespondent  
AMN SSSR, prof. N.M. Amosov) Ukrainskogo nauchno-issledovatel'-  
skogo instituta tuberkuleza.

(HEART—SURGERY) (BLOOD—CIRCULATION, ARTIFICIAL)

ZIN'KOVSKIY, M.M.

Preventing metal and slag ejections from converters. Metallurg  
8 no.10:18 0 '63. (MIRA 16:12)

1. Pridneprovskiy sovet narodnogo khozyaystva.

ZIN'KOVSKIY, M.M.

[Labor safety in converter plants] Okhrana truda v kor-  
verternykh tsakhakh. Moskva, Metallurgiya, 1964. 31 p.  
(MIRA 18t3)

ZIN'KOVSKIY, M.M.

For a further improvement of the working conditions of metalworkers.  
Metallurg 10 no.9:40 S '65. (MIRA 18:9)

1. Tekhnicheskiy inspektor Tsentral'nogo komiteta professional'nogo  
soyuza rabochikh metallurgicheskoy promyshlennosti.

ZIN'KOVSKIY, P.I. (g. Moskva); VOMIN, A.I. (g. Moskva).

Installing large-panel gypsum-slag concrete floors. Strel. prod. ref.  
prem. 2 no.3:22-23 Mr '57. (MIRA 10:4)  
(Concrete construction)

PANIN, A.P. (g.Nebit-Dag); ZIN'OVSKIY, P.I. (g.Nebit-Dag)

Organization of plastering work. Strel.prod.neft.prom. 1 no.6:22-24  
Ag '56. (Plastering) (MLRA 9:9)

ZIN'KOVSKIY, V.

Lemon

Lemons in Maikop., Sad 1 og., no. 2, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1952, Uncl.



ZIN'KOVSKIY, V.

How does the machine accounting bureau work. Dan. 1 kred. 19  
no.11:77-78 N '61. (MIRA 14:12)

1. Glavnyy bukhgalter gorupravleniya Nikolayevskoy kontory  
Gosbanka.

(Nikolayev---Machine accounting)

ZIN'KOVSKIY, Vasil'y Makal'movich; GOLUBINSKAYA, Ye.S., redaktor; PERESYPKINA,  
Z.D., tekhnicheskij redaktor

[Indoor cultivation of lemons] Komnatnaya kul'tura limona, Moskva,  
Gos. izd-vo sel'khoz. lit-ry, 1956. 26 p. (MLRA 9:9)  
(Lemon)

1. ZIN'KOVSKIY, V. M.

2. USSR (600)

4. Citrus Fruits

7. Ways of covering citrus trees for winter. Sad i og. no.10, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

ZIN'KOVSKIY, Vasilii Maksimovich; SERGEYEV, V.I., red.; ZUBRILINA, Z.P.,  
tekhn.red.

[Indoor growing of citrus plants] Komnatnaya kul'tura  
tsitrosovykh rastenii. Moskva, Gos. izd-vo sel'khoz. lit-ry,  
1958. 55 p. (MIRA 12:1)

(Citrus fruits)

ZINKOVSKY, Karel

Technical standardization in general engineering in 1962.  
Normalizace II no.5:139-142 My '63.

1. Ministerstvo vseobecného strojírenství, Praha.

ZINKOVSKY, Karel

Branch standards in the sector of general machinery industry.  
Normalizace 11 no.10:325-327 O '63.

1. Ministerstvo vseobecneho strojirenstvi, Praha.

GAMIY, V.A.; ZIN'KOVSKIY, Yu.F.

Cathode follower with small output resistance. Radiotekhnika  
20 no.10:50-51 O '65. (MIRA 18:11)

1. Deystvitel'nyye chleny Nauchno-tehnicheskogo obshchestva  
radiotekhniki i elektroniki.

ZINKUS, R.V., inzh.; PROMET, Ye.A., inzh.

Asynchronous start of An 8,000 kv.-a. turbogenerator. Elek. sta. 29  
no.7:82-84 J1 '58. (MIRA 11:10)

(Turbogenerators)



KHROMYKH, K.I.; ZINLAND, R.S.; BELOSTOTSKIY, S.L.

Treating suppurative skin diseases by electrophoresis of staphylococcal antiphagin. Vest.ven.i derm. no.4:60-61 J1-Ag '53. (MLHA 6:9)

1. Leningradskiy koshno-venerologicheskii dispanser No.15.  
(Skin--Diseases) (Cataphoresis) (Staphylococcus)

789. System  $H_2-N_2-CO$  and  $CO$  Washing. M. Rubenmann and N. Zinn. *Phys. Zeits. A. Supplement*, 12, 4, pp. 388-403, 1937. In German.—Pressure-concentration equilibrium diagrams of the binary mixtures  $H_2-CO$ , and  $H_2-N_2$  at 90°, 85° and 70° K. and for pressures 12-60 atm. are given, together with equilibrium diagrams of the ternary system  $H_2-N_2-CO$  at the same temperatures and at pressures 12, 20, 30, 35 and 60 atm. The minimum amounts of liquid  $N_2$  required for washing out  $CO$  from 180 m.<sup>3</sup> of the ternary mixture in an infinite number of rectifying columns are calculated, and data for the number of columns theoretically required to effect purification to within 0.01 or 0.01%  $CO$  under various conditions of pressure and temperature are given, and characteristic features of rectification are briefly discussed.

J. S. G. T.

13L

A-1

Hydrogen-nitrogen-carbon monoxide system and the carbon monoxide "cush": M. KUNZMANN and H. GUNN (Physikal. Z. Sovietunion, 1957, 12, 388-403). Equilibrium and kinetics relative to the binary systems  $H_2-O_2$  and  $H_2-H_2O$  and the ternary system  $H_2-N_2-O_2$  are recorded for 30°, 45°, and 60° at pressures in the range 12-30 atm. The results are used to determine the optimum conditions for the industrial removal of CO from coal gas.

I. McA.

ASB-ELA METALLURGICAL LITERATURE CLASSIFICATION

GROUP	CLASS	RELATION	GROUP	CLASS	RELATION
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
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94	94	94	94	94	94
95	95	95	95	95	95
96	96	96	96	96	96
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98	98	98	98	98	98
99	99	99	99	99	99
100	100	100	100	100	100

The system hydrogen-nitrogen-carbon monoxide and the scrubbing out of carbon monoxide M. Reibermann and N. Zinn. *Physik. Z. Supplement* 12, no. 413 (1972) (in German). — p.p. diagrams are constructed for the binary systems H-CO and H-N at 90°, 83° and 78°K. between 12 and 30 atm. The equil. curves were found for the system H-N-CO at the above temps., and at 12, 20, 30, 33 and 60 atm. The min. amt. of liquid N necessary for the scrubbing out of CO from the mixt. of the three is calculated. The theoretical no. of plates needed for a column under given conditions is calculated. The role of self-rectification in the processes in the wash-column is explained.

ZINNER, N.; GERENDAS, M.; BIRO, T.

A new method of arthroplasty. Acta med. hung. 7 no.1-2:217-222  
1955.

1. II. Department of Orthopedics, State Institute for Rheumatic  
Diseases and Balneology; Research Department for the National  
Blood Donor Service.

(HIP, surgery,

arthroplasty with fibrin cup in dogs)

(FIBRIN,

fibrin cup in arthroplasty in dog)

ZINNER, Nandor, dr.; GERENDAS, Mihaly, dr.; BIRO, Tibor, dr.

A new method in arthroplasty. Orv. hetil. 95 no. 34:932-934 22 Aug 54.

I. Az ORFI. (igazgato: Dubovitz Denes dr. ) II. Orthopaed osztalyanak (focervos: Zinner Nandor dr. az orvostudomanyok kandidatusa) es az Orszagos Verellate szolgalat (igazgato: Sores Balint dr.) kutato-osztalyanak (vezeto: Novak Erno dr. az orvostudomanyok kandidatusa) kozlame nye

(JOINTS, surgery

fibrin & vitallium arthroplasty)

(FIBRIN

arthroplastic use

(VITALLIUM

arthroplastic use)

ZINNER, St., dr.; PARLESAK, Ad., inz.

Driving speed permitted abroad. Siln doprava ll. no. 12:  
21 D '63.

REMPEL', S. I.; TYURIN, Yu. N.; ZINNER, V. A.; DUNAYEVSKAYA, L. A.

Control of the process of preparing metallic potassium by the  
intensity of radioactive radiation. Zav. lab. 28 no.12:1474-  
1475 '62. (MIRA 16:1)

1. Ural'skiy nauchno-issledovatel'skiy khimicheskiy institut.

(Potassium—Production control)  
(Potassium—Isotopes)



B

COUNTRY : GDR  
 CATEGORY : Physical Chemistry. Crystals  
 ABS. JOUR. : RZKhim., No. 1 1960, No.272  
 AUTHOR : Zinngrebe, H.  
 INST. :  
 TITLE : Optical Absorption of Thallium Chloride

ORIG. PUB. : Z. Phys., 1959, 154, No 4, 495-511

ABSTRACT : The optical absorption of crystalline and amorphous  $\text{TlCl}$  in the range of  $0.6-18 \mu$  was measured. In the spectrum of thin films obtained by condensation of the vapors of  $\text{TlCl}$  at room temperatures and at temperatures of liquid  $\text{H}_2$ , the separate absorption bands which shift towards the short-wave side by the same value with an increase in temperature, can be well distinguished. If the condensation of vapors

CARD:

1/4

B-19

COUNTRY	:	
CATEGORY	:	B
ABS. JOUR.	:	RZKhim., No. 1 1960, No. 272
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT cont'd	:	metals. An energy by 1.5 ev. smaller than in the first short-wave "exciton" band corresponds to the border of continuous absorption.-- E. Nagayev
CARD:		4/4

1. ZINCHKIN, A., TIKHOMIROV, M.
2. USSR (600)
4. Machine-Tractor Stations
7. Working out five-year plans for developing machine-tractor stations. Sots. sel'khoz. 23 no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.

BERNARDIN, A. G. and YEMEL'YANOV, V. P.,

"Organizational and Economic Strengthening of Kolkhozes in Sverdlovskaya Oblast' in the Postwar Period (1946-55)," Sotsialisticheskoye stroitel'stvo na Urale; sbornik statey (Socialist Construction in the Ural Industrial Area; Collection of Articles) [Sverdlovsk] Sverdlovskoye knizhnoye izdo-vo, 1957. 345 p.

Ed. (front of book): ZUYKOV, V. N., Candidate of Historical Sciences; Ed. (Back of book): GETLING, Yu.; Tech. Ed.: PAL'MINA, N.

PURPOSE; This collection of articles is intended for the general reader.

COVERAGE: The collection contains reports on the economic growth of the Ural Industrial Area, including the development of farming. Particular attention is given to the role played by this region during the 2nd World War. Relatively little space is devoted to the current Five Year Plan.

ZINCHKIN, Aleksandr Georgiyevich

[From the "workday" to money wages] Ot trudodnia - k denezhnoi oplata.  
I Aroslavl' Riazanskoe knizhnoe izd-vo, 1960. 125 p. (MIRA 14:7)  
(Collective farms--Income distribution)

ZINCHKIN, Aleksandr Georgiyevich, kand. ekonom. nauk; GORELIN, L.Ya.,  
red.; GERASIMOVA, Ye.S., tekhn. red.

[Economic evaluation of farmland] Ekonomicheskaya otsenka  
sel'skokhoziaistvennykh ugodii. Moskva, Ekonomdat, 1963.  
176 p.

(MIRA 16:6)

(Agriculture--Economic aspects)

ZINOV, B.G.; KORENCHENKO, S.M.

Charge exchange scattering of 240 to 330 Mev  $\pi^-$ -mesons on  
hydrogen. Zhur.eksp.i teor.fiz. 38 no.5:1399-1406, My '60.  
(MIRA 13:7)

1. Ob'yedinennyy institut yadernykh issledovaniy.  
(Mesons--Scattering)

SEDOV, P.; ZINOV, I.; BELETSKIY, B., starshiy inzhener

Rapid construction of large tanks made of precast reinforced concrete. Prom.stroi.i inzh.soor. 4 no.1:41-46 Ja-F '62.

(MIRA 15:8)

1. Nachal'nik upravleniya "Donbasskanalstroya" (for Sedov).
2. Nachal'nik tekhnicheskogo otdela "Donbasskanalstroya" (for Zinov).

(Tanks)

(Precast concrete construction)



ZINOV, B.K.

Expansion of the woodworking industries in the Kuban'. Der.prom.  
9 no.11:1-3 N '60. (MIRA 13:12)

1. Kavkazskiy filial Tsentral'nogo nauchno-issledovatel'skogo  
instituta mekhanizatsii i energetiki lesnoy promyshlennosti.  
(Kuban--Woodworking industries)

VOLCHEK, I.Z., kand. tekhn. nauk; KUKUSHKIN, A.I.; ZINOV, I.I.

Improving methods for producing vulcanite. Stroil. mat. 5 no.10:14-18  
0 '59. (MIRA 13:2)

1. Glavnyy inzhener tresta Montazhtermoizdeliya (for Kukushkin)
2. Glavnyy inzhener Insenskogo diatomovogo kombinata (for Zinov).  
(Rubber)

ZINOV, I.T., inzh.; POCHAFSKIY, N.F., kand.tekhn. nauk :

Improvement of the D-152 asphalt concrete mixer. Stroif. i dor. mash.  
10 no.2:7-8 F '65.  
(MIRA 18:3)

ZINOV, M.P.

All-Union conference on safety techniques and industrial hygiene.  
Leg.prom.16 no.12:18-19 D '56. (MLBA 10:2)  
(Industrial hygiene) (Textile industry--Safety measures)

AUTHOR  
TITLE

PERIODICAL

ABSTRACT

ZINOV, V.G., KORENCHENKO, S.W.

56-2-3/47

Elastic Scattering of 307 MeV  $\pi^-$  Mesons by Hydrogen

(Uprugoye rasseyaniye  $\pi^-$  mezonov s energiyey 307 MeV na vodorode. Russian.)  
Zhurnal Eksperim. i Teoret. Fiziki 1957, Vol. 33, Nr 2 (6), pp. 335 -  
- 338 (U.S.S.R.)

By means of scintillation counters the angular distribution of the  
307  $\pm$  9 MeV -  $\pi^-$  mesons, which were elastically scattered by hydro-  
gen, was measured.

Angles in C.M.S.

Differential cross section  
in mb/steradian

41°20'	1,30 $\pm$ 0,27
60°35'	1,05 $\pm$ 0,13
78°28'	0,75 $\pm$ 0,09
99°57'	0,49 $\pm$ 0,06
118°59'	0,61 $\pm$ 0,07
140°01'	0,89 $\pm$ 0,10
160°16'	1,12 $\pm$ 0,12

In a general manner, the angular distribution can be described by  
the equation  $d\sigma/d\omega = [(0,56 \pm 0,05) + (0,42 \pm 0,11)\cos\theta +$   
 $+ (1,10 \pm 0,16)\cos^2\theta]$  mb/steradian.

Card 1/2

56-2-3/47

Elastic Scattering of 307 MeV  $\pi^-$  Mesons by Hydrogen

The binding constant  $f^2$  of meson-nucleon interaction is of the magnitude  $\sim 0,08$ .

(With 2 tables, 1 illustration, and 4 Slavic references).

ASSOCIATION

United Institute for Nuclear Physics  
(Ob'yedinennyy institut yadernykh issledovaniy)

PRESENTED BY

SUBMITTED

AVAILABLE

1.3.1957

Library of Congress

Card 2/2

2 L IV OV, V. G.

AUTHOR: Zinov, V.G., Korenchenko, S.M. 56-5-43/46

TITLE: Scattering of 333 MeV  $\pi^-$ -Mesons by Hydrogen (Rassayaniye  $\pi^-$ -mesonov na vodorode pri energii 333 MeV)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 5, pp. 1307-1308 (USSR)

ABSTRACT: The  $\pi^-$ -mesons produced by the synchrocyclotron had an energy of  $333 \pm 9$  MeV; with them scattering experiments by hydrogen were carried out, which were measured by means of scintillation counters. The following results for the angular distribution according to the form  $d\sigma/d\omega = a + b \cos^2 \theta + c \cos^4 \theta$  are given:

a) For the elastic scattering of  $\pi^-$ -mesons:  
 $a = 0.540 \pm 0.024$ ;  $b = 0.340 \pm 0.058$ ;  $c = 0.900 \pm 0.098$

b) For the  $\gamma$ -quanta originating from the  $\pi^0$ -meson decay:  
 $a_\gamma = 1.87 \pm 0.24$ ;  $b_\gamma = 2.89 \pm 0.44$ ;  $c_\gamma = 2.32 \pm 0.59$

The integral scattering cross section was calculated at  $(10.7 \pm 0.6)$  mb and the exchange cross section at  $(16.6 \pm 1.4)$  mb.

Card 1/2

Scattering of 333 MeV  $\pi^-$ -Mesons by Hydrogen

56-5-43/46

The total interaction cross section of  $\pi^-$ -mesons with hydrogen was measured to be  $(28.8 \pm 1.8)$  mb. There are 2 tables and 2 Slavic references.

ASSOCIATION: United Nuclear Research Institute (Ob'yedinennyy institut yadernykh issledovaniy)

SUBMITTED: August 5, 1957

AVAILABLE: Library of Congress

Card 2/2



ZINOV, V.G.

AUTHOR: Zinov, V.G., Korenchenko, S.M.

56-5-44/46

TITLE: The Scattering of 307 MeV  $\pi^-$ -Mesons by Hydrogen with Charge Exchange Phenomena (Rasseyaniye  $\pi^-$ -mezonov na vodorode s perezharyadkoy pri energii 307 MeV)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 5, pp. 1308-1309 (USSR)

ABSTRACT: The angular distribution of  $\gamma$ -quanta originating from  $\pi^0$ -meson decay was measured by means of oscillation counters. The  $\pi^0$ -mesons are obtained from the reaction  $\pi^- + p \rightarrow \pi^0 + n$ . The  $\pi^-$ -mesons originate from a synchrocyclotron and have an energy of 307±9 MeV. For the differential cross section in the form  $d\sigma/d\omega = a + b \cos \theta + c \cos^2 \theta$  the coefficients were determined for the angular distribution of the  $\pi^0$ -mesons as follows:

$$a_0 = 0,57 \pm 0,23; b_0 = 2,10 \pm 0,34;$$

$$c_0 = 2,64 \pm 0,60$$

Card 1/2

The Scattering of 307 MeV  $\pi^-$ -Mesons by Hydrogen with Charge Exchange Phenomena 56-5-44/46

The integral exchange cross section amounts to  $(18,4 \pm 1,6)$ mb.  
There are 1 figure, 1 table, and 3 Slavic references.

ASSOCIATION: United Nuclear Research Institute (Ob'yedinennyy institut yadernykh issledovaniy)

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TITLE: The Production of Pions by Negative Pions on Hydrogen Near the Threshold (Obrazovaniye  $\pi$ -mezonov  $\pi^-$ -mezonami na vodorode vblizi poroga)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958, Vol 34, Nr 2, pp 301-311 (USSR)

ABSTRACT: This work examines by scintillation counters the production of pions on hydrogen by negative pions with the energy 307, 333, and 370 MeV. In the interaction of negative pions with hydrogen besides the scattering processes  $\pi^- + p \rightarrow \pi^- + p$  (elastic scattering) and  $\pi^- + p \rightarrow \pi^0(\rightarrow 2\gamma) + n$  (exchange scattering) the following production processes are possible:  $\pi^- + p \rightarrow \pi^- + \pi^+ + n$  (3);  $\pi^- + p \rightarrow \pi^- + \pi^0 + p$  (4);  $\pi^- + p \rightarrow \pi^0 + \pi^0 + n$  (5). The aim of this work is the estimation of the cross sections of the processes (3) and (4) in the range of the energies 300 to 370 MeV. Beams of negative pions with the energy of 250, 307, 333, and 370 MeV were used, which were obtained behind the magnet yoke of the synchro-cyclotron of the United Institute for Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy). For each of the above given energies

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of the beam the intensity distribution over the cross section of the beam was investigated by means of a scintillation counter. The particles were recorded by scintillation counters. The circuit diagram of the electronic device is illustrated by a figure. The target of liquid hydrogen was kept in a container of penopolystyrene. In case of the experiments discussed here those charged mesons were recorded, which were produced by the processes (3) and (4) and which flew off at the angle  $80^\circ$  in the laboratory coordinates system. Also the corrections which have to be put in at the measurements are discussed very detailed. The values obtained by various measurements and the corrections put in at them are composed in a table. If the primary beam has an energy of 250 MeV no mesons produced on hydrogen are registered. The high energy threshold at the recording is to a high degree caused by an aluminium filter which is fixed between 2 counters. The formula for the computation of the differential cross section for the production of a charged meson through the angle  $80^\circ$  in the laboratory system is written down here. The differential cross sections obtained in case of various angles are illustrated by a diagram. The differential cross section increases quickly with increasing

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